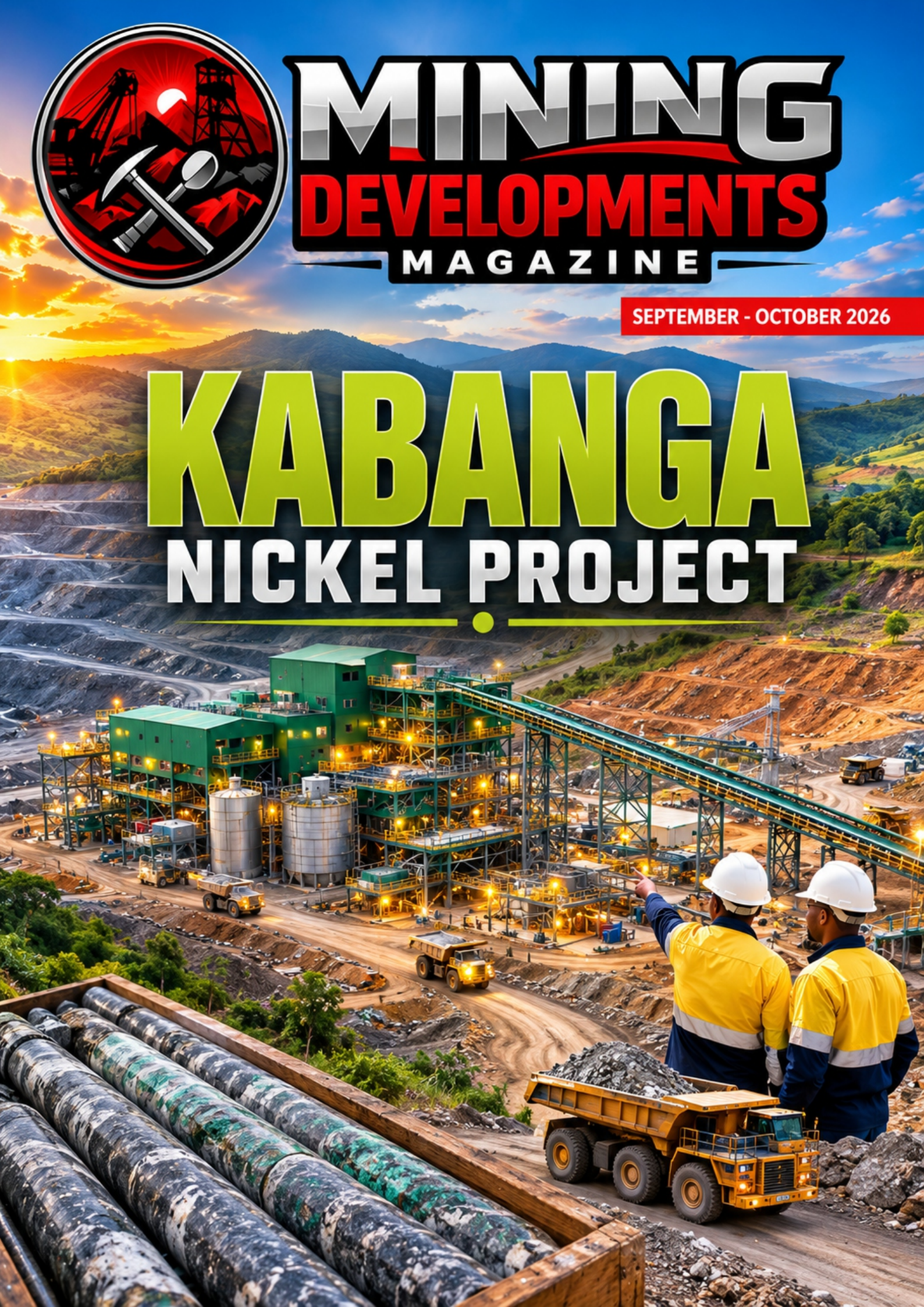
MINING DEVELOPMENTS MAGAZINE

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KABANGA NICKEL PROJECT





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Tanzania's Kabanga Nickel Project: Africa's Clean Energy Metal Giant



Powering Africa's Role in the Global Energy Transition

As the world accelerates toward electric mobility, renewable energy, and decarbonized industries, demand for critical minerals has reached unprecedented levels. Among these minerals, nickel has emerged as one of the most important components in high-performance lithium-ion batteries used in electric vehicles (EVs), energy storage systems, and advanced industrial technologies.

At the center of Africa's critical minerals revolution is the **Kabanga Nickel Project** in northwestern Tanzania. Widely regarded as one of the world's largest and highest-grade undeveloped nickel sulphide deposits, Kabanga is set to transform Tanzania into a major supplier of strategic battery metals while positioning East Africa as an increasingly important player in the global clean energy economy. The project has continued advancing toward implementation, with feasibility work completed and preparations underway for a Final Investment Decision (FID).

Project Overview

Located in Tanzania's Kagera Region near the border with Burundi, the Kabanga Nickel Project has been known to geologists for decades due to its exceptional mineralization. Following renewed investment and a partnership between the Government of Tanzania and Lifezone Metals, the project has entered an advanced development stage.

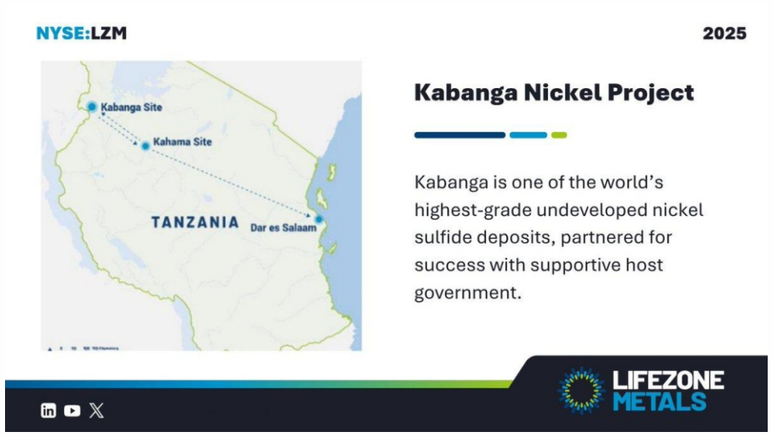
The project is being developed through Tembo Nickel Corporation Limited, with Lifezone Metals holding an 84% interest and the Government of Tanzania retaining 16%, reflecting Tanzania's strategy of ensuring meaningful national participation in strategic mining projects.

One of the World's Richest Nickel Sulphide Deposits

Unlike laterite nickel deposits common in many tropical regions, Kabanga contains high-grade nickel sulphide ore, which is generally considered more attractive for battery production due to:

- Higher nickel grades
- Lower processing costs
- Reduced environmental footprint
- Easier conversion into battery-grade materials
- Lower energy consumption during processing





The July 2025 feasibility study outlines an underground operation capable of processing approximately **3.4 million tonnes of ore annually** over an estimated **18-year mine life**. Life-of-mine production is projected at approximately:

- **902,000 tonnes of nickel**
- **134,000 tonnes of copper**
- **69,000 tonnes of cobalt**

These metals are all critical ingredients for electric vehicle batteries and renewable energy technologies.

A Strategic Battery Metals Project

Nickel has become increasingly valuable as battery manufacturers seek higher energy-density battery chemistries capable of extending EV driving range.

Kabanga's nickel concentrate will also contain valuable copper and cobalt, making the project an important supplier of multiple critical minerals essential for:

- Electric vehicles
- Battery storage systems
- Renewable energy infrastructure
- Stainless steel manufacturing
- Aerospace applications
- Defence technologies

As governments worldwide diversify supply chains away from traditional producers, projects such as Kabanga have gained strategic importance.

Advanced Underground Mining

Rather than using open-pit mining, Kabanga will employ modern underground mining methods.

The operation will utilize:

- Mechanised long-hole stoping
- Paste backfill technology
- Modern underground ventilation systems
- Advanced geotechnical monitoring
- High-efficiency ore handling systems

Underground mining reduces surface disturbance and minimizes environmental impacts while improving ore recovery.

The project will include:

- Underground mine
- Crushing facilities
- Concentrator plant
- Tailings storage facility
- Water treatment systems
- Power infrastructure
- Access roads
- Worker accommodation and support facilities

Innovative Processing Technology

One distinguishing feature of the Kabanga Project is its emphasis on cleaner processing technologies.

Lifezone Metals intends to apply modern hydrometallurgical processing technologies that aim to reduce greenhouse gas emissions compared with conventional nickel smelting methods.

The company is also evaluating downstream refining within Tanzania to produce higher-value battery materials rather than exporting only mineral concentrates. This approach aligns with Tanzania's industrialization strategy by increasing local value addition.





Supporting Tanzania's Industrial Vision

The Tanzanian Government views Kabanga as more than a mining project—it is expected to become a catalyst for broader industrial development.

Potential benefits include:

- Expansion of domestic mineral processing
- Growth of manufacturing industries
- Improved transport infrastructure
- Expansion of electricity transmission
- Skills development
- Increased local procurement
- Attraction of foreign investment

Plans include supporting infrastructure such as a 220 kV transmission line and transport links connecting production to export routes.

Economic Impact

The Kabanga Project represents one of Tanzania's largest mining investments.

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Current feasibility estimates include:**CategoryEstimate**Initial Capital InvestmentApproximately US$942 millionMine Life18 yearsAnnual Ore Processing3.4 million tonnesDirect EmploymentAbout 1,090 jobsMajority Tanzanian WorkforceApproximately 91%After-tax NPV (8%)US$1.58 billionInternal Rate of Return23.3%Beyond direct employment, thousands of indirect jobs are expected across:

- Engineering
- Construction
- Logistics
- Transport
- Hospitality
- Equipment maintenance
- Local manufacturing
- Community services

Community Development

A major focus of the project is community engagement.

The Environmental and Social Impact Assessment includes commitments relating to:

- Local employment
- Skills training
- Community investment
- Water management
- Biodiversity conservation
- Resettlement planning
- Occupational health and safety
- Local supplier development

The project also emphasizes long-term partnerships with nearby communities to ensure inclusive economic benefits.

Environmental Stewardship

As global investors increasingly prioritize Environmental, Social and Governance (ESG) standards, Kabanga is designed to incorporate modern environmental practices.

These include:

- Reduced emissions processing technologies
- Responsible waste management
- Progressive land rehabilitation
- Water recycling systems
- Environmental monitoring
- Biodiversity management
- Responsible tailings management

These measures aim to produce nickel with a comparatively lower carbon footprint, supporting the growing demand for responsibly sourced battery materials.



Progress Toward Development

Recent milestones include:

- Completion of a comprehensive feasibility study.
- Advancement of permitting and engineering work.
- Progress on financing discussions with development finance institutions and commercial lenders.
- Continued early works, geotechnical investigations and procurement planning.
- High-level government engagement confirming progress toward implementation and a targeted Final Investment Decision in 2026.



Why Kabanga Matters Globally

As demand for critical minerals continues to rise, supply security has become a strategic priority for governments and manufacturers.

Kabanga offers several competitive advantages:

- One of the world's highest-grade undeveloped nickel sulphide deposits
- Significant nickel, copper and cobalt resources
- Modern underground mining methods
- Potential low-carbon processing
- Strong government partnership
- Opportunity for downstream value addition within Africa
- Strategic location serving international markets

These characteristics make Kabanga one of Africa's flagship clean energy mining projects.

Challenges Ahead

Like all large mining developments, Kabanga must successfully navigate several challenges before production begins:

- Final project financing
- Final Investment Decision
- Infrastructure construction
- Market volatility in nickel prices
- Maintaining strong environmental performance
- Building local skills capacity
- Delivering community benefits

Continued collaboration between investors, government and local communities will be essential to the project's long-term success.



Outlook

The Kabanga Nickel Project represents far more than a new mine—it symbolizes Africa's growing role in the global energy transition. As nations seek reliable, responsible and diversified sources of critical minerals, Tanzania is emerging as a strategic supplier of battery metals essential for electric vehicles and renewable energy technologies.

If development proceeds as planned, Kabanga could become one of Africa's most important mining projects of the decade, generating billions of dollars in economic value, creating thousands of jobs, and strengthening Tanzania's position in the international critical minerals supply chain. By combining world-class mineral resources with modern processing technologies and a commitment to local value addition, Kabanga has the potential to become a benchmark for sustainable mining and industrial development across the continent.

Sukari Gold Mine Expansion – Egypt's Largest Gold Operation



Expanding Egypt's Golden Future

The **Sukari Gold Mine**, located in Egypt's Eastern Desert approximately 30 kilometres southwest of Marsa Alam along the Red Sea coast, is the country's largest gold mining operation and the first modern commercial gold mine developed in Egypt. Since commercial production began in 2010, Sukari has transformed Egypt's mining sector, becoming one of Africa's premier gold operations and a cornerstone of the country's ambition to establish itself as a global mining investment destination.

Following the acquisition of Centamin by **AngloGold Ashanti** in late 2024, Sukari has entered a new phase of expansion focused on extending mine life, increasing production efficiency, expanding underground operations, and unlocking additional mineral resources across the concession. The operation is expected to remain one of the world's leading Tier-1 gold assets well into the next decade.

Project Overview

Sukari lies within the Arabian-Nubian Shield, one of the world's richest geological provinces for precious metals. The operation combines a large open-pit mine with an expanding underground mining system, supported by a modern processing plant capable of treating millions of tonnes of ore annually.

The mine is jointly owned by **AngloGold Ashanti** and the **Egyptian Mineral Resource Authority (EMRA)** under a long-term partnership that shares economic benefits between the company and the Egyptian government.

Location

- **Country:** Egypt
- **Region:** Eastern Desert (Red Sea Governorate)
- **Nearest City:** Marsa Alam
- **Mining Method:** Open Pit and Underground
- **Primary Mineral:** Gold

Africa's Premier Gold Asset

Sukari has become one of Africa's most productive gold mines.

Key operational highlights include:

- Annual gold production of approximately **500,000 ounces** in 2025.
- Attributable mineral reserves of **2.36 million ounces** (as of December 2025).
- Workforce of nearly **4,900 employees and contractors**.





- Continuous investment in mine expansion and operational improvements.

The mine has already produced more than five million ounces of gold since operations began, making it one of the continent's most successful gold developments.

Expansion Strategy

The latest expansion programme aims to transform Sukari into an even larger and longer-life operation through:

- Expansion of underground mining.
- Continued open-pit optimization.
- New gravity recovery circuits.
- Increased processing efficiency.
- Grid power connection to reduce energy costs.
- Exploration of nearby high-potential targets.
- Digital mining technologies and automation.

These investments are expected to improve productivity through 2027 while supporting long-term production beyond 2035.

Underground Growth

While Sukari initially relied heavily on open-pit mining, underground operations are becoming increasingly important.

Expansion of underground mining offers several advantages:

- Access to higher-grade ore.
- Lower stripping requirements.
- Extended mine life.
- Improved operational flexibility.
- Reduced environmental footprint.

Modern underground equipment, ventilation systems, and advanced drilling technologies are helping maximize recovery while improving worker safety.

Processing Plant Upgrades

Sukari's processing plant continues to undergo modernization to maximize gold recovery.

Key improvements include:

- Installation of gravity recovery technology.
- Enhanced crushing and grinding circuits.
- Improved flotation performance.
- Digital plant monitoring.
- Energy-efficient processing equipment.
- Water recycling systems.

These upgrades are designed to improve recovery rates while reducing operating costs and environmental impacts.

Exploration Success

One of the mine's greatest strengths is its exploration potential.

Ongoing drilling programmes continue to identify:





- Extensions to existing ore bodies.
- Additional underground mineralization.
- New exploration targets within the broader Sukari concession.
- Satellite prospects capable of supporting future production.

These discoveries could significantly extend the operational life of the mine beyond current reserve estimates.

Economic Contribution

Sukari plays a major role in Egypt's economy by:

- Generating export earnings.
- Supporting thousands of direct and indirect jobs.
- Attracting international mining investment.
- Contributing government revenues.
- Developing local supplier industries.
- Building technical mining expertise.

The operation has also strengthened investor confidence in Egypt's mining reforms, encouraging new exploration across the Eastern Desert.

Sustainability and ESG

Modern expansion plans emphasize responsible mining practices, including:

- Reduced carbon emissions through greater use of grid electricity.
- Efficient water recycling and management.
- Progressive land rehabilitation.
- Dust suppression systems.
- Biodiversity protection.
- Enhanced occupational health and safety.
- Community engagement and local procurement.





These initiatives align with international environmental, social, and governance (ESG) standards while supporting Egypt's sustainable mining objectives.

Supporting Egypt's Mining Vision

Egypt has embarked on an ambitious mining modernization programme aimed at increasing mining's contribution to the national economy.

Sukari serves as the flagship project demonstrating that Egypt can successfully host world-class mining investments. The government's broader objectives include:

- Attracting new exploration companies.
- Expanding gold production.
- Developing mineral processing industries.
- Increasing mining's contribution to GDP.
- Positioning Egypt as a regional mining hub.

Looking Ahead

With sustained investment in underground development, processing technology, exploration, and operational efficiency, the Sukari Gold Mine is entering a new era of growth. The integration into AngloGold Ashanti's global portfolio provides additional technical expertise and financial strength to unlock the mine's full potential.

As Egypt continues to modernize its mining sector, Sukari stands as a flagship example of how strategic investment, advanced mining technologies, and responsible resource development can create long-term economic value. Its expansion not only secures the future of Egypt's largest gold operation but also reinforces the country's position as one of Africa's emerging leaders in modern gold mining.



Makuutu Rare Earths Project – Uganda's Critical Minerals Gateway to the Clean Energy Future



Uganda's Emerging Rare Earth Powerhouse

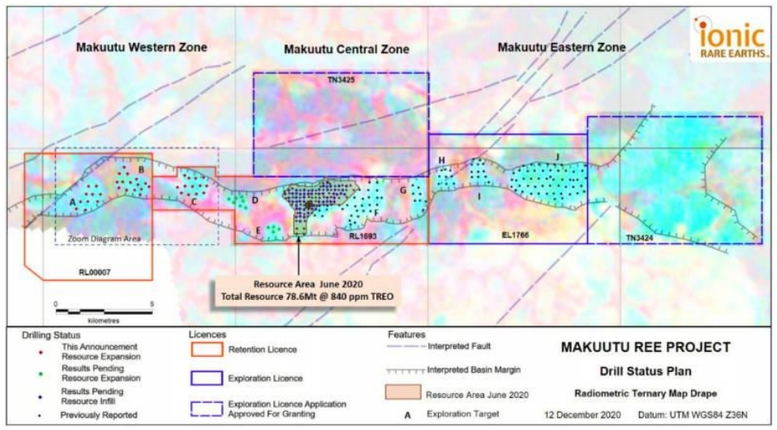
As the global transition to electric vehicles, renewable energy, robotics, and advanced defence technologies accelerates, the demand for rare earth elements (REEs) has never been greater. These strategic minerals are essential in the manufacture of permanent magnets used in electric motors, wind turbines, smartphones, medical equipment, and numerous high-tech applications.

At the heart of East Africa's critical minerals revolution is the **Makuutu Rare Earths Project** in eastern Uganda. Recognized as one of the world's largest ionic adsorption clay (IAC) rare earth deposits outside China, Makuutu is poised to become Uganda's flagship mining project and a globally significant supplier of magnet and heavy rare earth elements. Recent resource upgrades have increased the project's mineral resource to **315 million tonnes at 650 ppm Total Rare Earth Oxide (TREO)**, making it one of the largest known ionic clay deposits globally.

Project Overview

Located approximately **120 kilometres east of Kampala**, the Makuutu Project spans nearly **300 square kilometres** across several exploration, retention, and mining licences in the Busoga region.

The project is being developed by **Rwenzori Rare Metals Limited (RRM)**, with **Ionic Rare Earths Limited (IonicRE)** holding a controlling interest. It has become one of Uganda's most strategically important mining investments due to its scale, favourable metallurgy, and growing importance in global critical mineral supply chains.

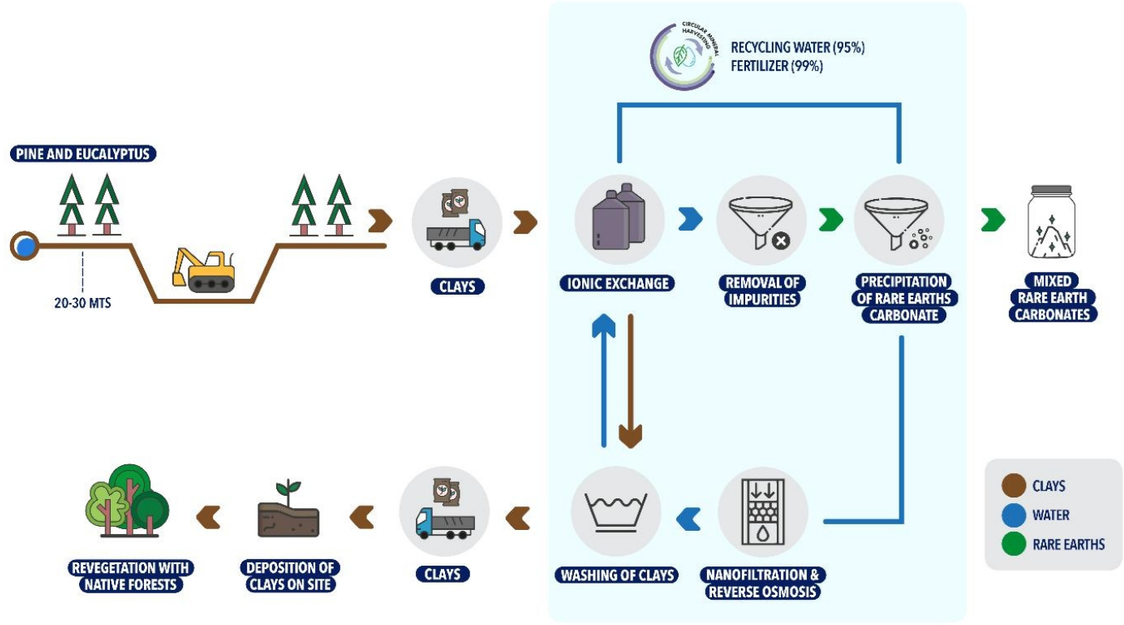


Project Highlights

- **Location:** Eastern Uganda
- **Primary Minerals:** Heavy and Magnet Rare Earth Elements
- **Deposit Type:** Ionic Adsorption Clay (IAC)
- **Mining Method:** Low-strip open-pit mining
- **Estimated Mine Life:** More than 35 years (with further expansion potential)
- **Development Stage:** Advanced feasibility, demonstration plant completed, financing and Final Investment Decision progressing.

A World-Class Rare Earth Deposit

Unlike conventional hard-rock rare earth mines, Makuutu is an **ionic adsorption clay deposit**, similar to the deposits that have historically supplied much of China's heavy rare earth production.



These deposits offer several advantages:

- Lower-cost mining
- Shallow mineralization
- Minimal blasting requirements
- Simpler processing
- Lower energy consumption
- Reduced environmental disturbance

The shallow orebody typically lies beneath less than three metres of overburden, making it suitable for efficient bulk mining with a very low stripping ratio.

Critical Minerals for the Green Economy

Makuutu contains a valuable basket of rare earth elements including:

- Neodymium (Nd)
- Praseodymium (Pr)
- Dysprosium (Dy)
- Terbium (Tb)

These elements are essential for manufacturing:

- Electric vehicle motors
- Wind turbine generators
- Defence technologies
- Aerospace systems
- Robotics
- Consumer electronics
- Medical imaging equipment

The project's rare earth basket contains a particularly high proportion of magnet and heavy rare earth elements, making it strategically attractive for supply chains outside China.

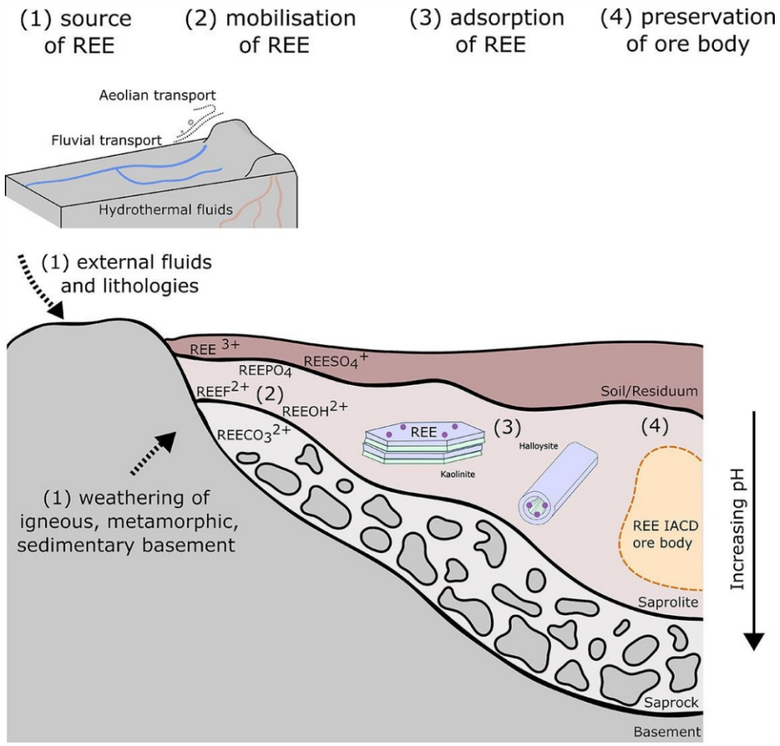
Mining and Processing Strategy

The Stage 1 Definitive Feasibility Study proposes:

- Open-pit mining at approximately **5 million tonnes of mineralized material annually**
- Production of a mixed rare earth carbonate (MREC)
- Annual rare earth oxide production averaging more than **1,100 tonnes** over an estimated **35-year** mine life

The maiden Stage 1 ore reserve stands at approximately **172.9 million tonnes grading 848 ppm TREO**, supporting robust project economics.





Demonstration Plant Success

An important milestone has been the successful commissioning of the **Makuutu Demonstration Plant**.

The facility has already produced mixed rare earth carbonate, validating the project's metallurgical process and providing material for customer qualification and potential offtake discussions.

The demonstration plant has also helped optimize:

- Mine design
- Grade control
- Material handling
- Metallurgical recovery
- Commercial processing flowsheets

These achievements substantially reduce technical risk ahead of commercial development.

Strong Project Economics

According to the Definitive Feasibility Study, Stage 1 of the Makuutu Project demonstrates attractive financial metrics:**Category****Estimate**Initial Capital InvestmentUS$120.8 millionMine LifeApproximately 35 yearsMining Rate5 million tonnes/yearPretax Net Present Value (8%)US$406 millionInternal Rate of Return32.7%Payback PeriodAbout 3 yearsThese figures position Makuutu among Africa's most economically attractive critical minerals developments.



Supporting Uganda's Industrial Growth

The project is expected to deliver substantial economic benefits through:

- Job creation
- Skills development
- Local supplier opportunities
- Increased export earnings
- Infrastructure improvements
- Government revenues
- Foreign direct investment

Makuutu also supports Uganda's ambition to diversify its mining sector beyond gold and industrial minerals, creating a new pillar for long-term economic growth.

Sustainability and ESG

The Makuutu Project has been designed around responsible mining principles.

Key environmental and social initiatives include:

- Low-impact open-pit mining
- Progressive rehabilitation
- Water management and recycling
- Community engagement
- Local employment and
- Environmental monitoring
- Responsible waste management

Because the deposit is shallow and does not require extensive blasting or crushing, the operation is expected to have a comparatively smaller environmental footprint than many conventional hard-rock rare earth mines.

Strategic Importance

China currently dominates global rare earth processing and supplies. Governments and manufacturers in Europe, North America, Japan, and other regions are actively seeking diversified sources of critical minerals.

Makuutu is therefore regarded as a strategically important project because it offers:

- A major non-Chinese source of heavy rare earths
- Long-life production potential
- Low-cost ionic clay mining
- Established infrastructure near Kampala
- Opportunities for downstream value addition

These attributes position Uganda as an emerging player in the global critical minerals market.



Recent Progress

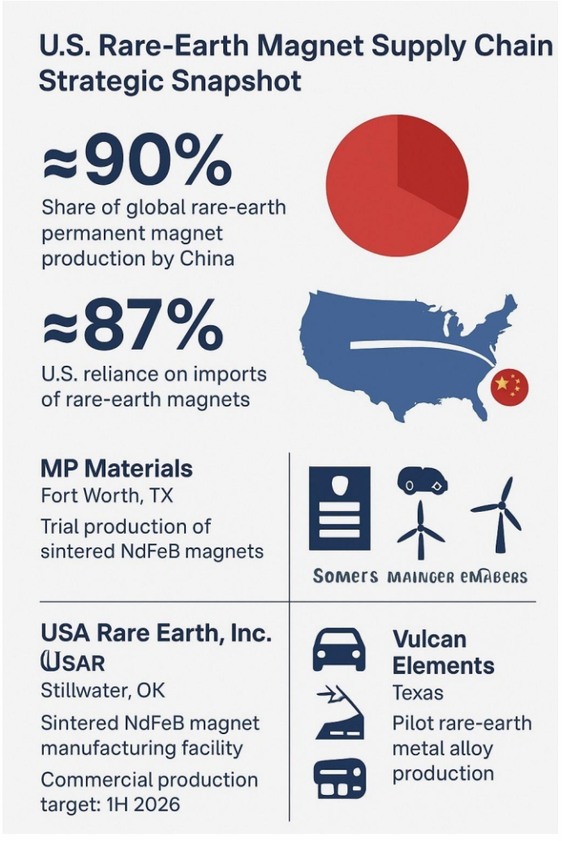
The project has achieved several important milestones:

- Significant increase in the Mineral Resource Estimate to **315 million tonnes**.
- Large-scale mining licence secured for the central project area.
- Successful operation of the demonstration plant producing mixed rare earth carbonate.
- Continued work on financing, customer qualification, and strategic partnerships ahead of a Final Investment Decision.

Outlook

The Makuutu Rare Earths Project represents one of Africa's most significant critical minerals developments and has the potential to transform Uganda into a leading supplier of rare earth elements essential for the global clean energy transition. Its combination of world-class scale, favourable geology, long mine life, competitive economics, and modern processing technology makes it one of the continent's most promising mining investments.

As demand for permanent magnets and advanced battery technologies continues to rise, Makuutu is well positioned to become a cornerstone of diversified global rare earth supply chains. By creating employment, attracting investment, and supporting local value addition, the project is expected to play a pivotal role in Uganda's industrialization while contributing to a more resilient global supply of the minerals that power the technologies of the future.



Kamoa-Kakula Copper Complex Expansion – DR Congo's World-Class Copper Giant



Driving Africa's Copper Revolution

As the global economy shifts toward electrification, renewable energy, and electric vehicles, copper has become one of the world's most strategic minerals. Every electric vehicle, wind turbine, solar farm, and modern power grid depends heavily on copper for efficient electrical conductivity, making it indispensable in the global energy transition.

At the forefront of this transformation is the **Kamoa-Kakula Copper Complex** in the Democratic Republic of Congo (DRC). Located in the mineral-rich Central African Copperbelt, Kamoa-Kakula has rapidly emerged as one of the world's largest, highest-grade, and fastest-growing copper mining operations. Its ongoing expansion is set to cement its status as one of the most significant mining developments of the 21st century.

Project Overview

The Kamoa-Kakula Copper Complex is situated approximately 25 kilometres west of Kolwezi in Lualaba Province, one of the world's premier copper-producing regions. The project is jointly owned and operated by **Ivanhoe Mines**, **Zijin Mining Group**, **Crystal River Global Limited**, and the **Government of the Democratic Republic of Congo** through a strategic partnership.

Since commercial production began in 2021, Kamoa-Kakula has consistently exceeded production expectations through a phased development strategy. The expansion programme includes new underground mines, additional concentrator plants, expanded processing capacity, renewable energy investments, and enhanced logistics infrastructure, positioning the complex among the world's leading copper producers. (Source: Ivanhoe Mines 2025 Integrated Annual Report)

Project Highlights

- **Country:** Democratic Republic of Congo
- **Province:** Lualaba
- **Nearest City:** Kolwezi
- **Mining Method:** Underground
- **Primary Mineral:** Copper
- **By-products:** Zinc, Silver (future potential)
- **Mine Life:** More than 30 years
- **Development Stage:** Multi-phase expansion with Phase 3 commissioned and Phase 4 studies underway





One of the World's Highest-Grade Copper Deposits

Kamoa-Kakula is globally recognized for its exceptional copper grades, significantly higher than the global average for large-scale copper mines.

The complex contains multiple high-grade deposits, including:

- Kakula
- Kamoa
- Kansoko
- Kakula West
- Kamoa North
- Makoko
- Western Foreland exploration discoveries

These deposits collectively represent one of the largest copper discoveries made anywhere in the world in recent decades.

Phase 3 Expansion

The successful commissioning of the **Phase 3 Concentrator** marks a major milestone in the project's evolution.

The expansion includes:

- A new concentrator capable of processing **5 million tonnes of ore annually**
- Increased underground mining capacity
- Additional conveyors and ore handling infrastructure
- Expanded tailings management facilities
- Enhanced power distribution systems

With the addition of Phase 3, total processing capacity has increased to approximately **14.2 million tonnes of ore per year**, making Kamoa-Kakula one of the largest copper mining complexes globally.

Record Copper Production

Following successive expansion phases, Kamoa-Kakula has become Africa's largest copper-producing mine.

The operation is expected to produce approximately **600,000–650,000 tonnes of copper annually** following optimization of the Phase 3 facilities, placing it among the **top three largest copper mining complexes in the world**.

The exceptionally high ore grades also enable lower operating costs and reduced greenhouse gas emissions per tonne of copper produced compared with many lower-grade operations.

Underground Mining Excellence

Unlike many large copper operations that rely on open-pit mining, Kamoa-Kakula employs advanced underground mining techniques.

Key mining technologies include:

- Mechanized drift-and-fill mining
- Automated drilling systems
- Underground conveyor networks
- High-capacity ventilation systems
- Digital mine monitoring
- Modern safety management systems

Underground mining minimizes surface disturbance while maximizing recovery from the exceptionally rich ore bodies.





Waterberg Platinum Group Metals Project – South Africa's Next Generation Platinum Mine



A New Era for South Africa's Platinum Industry

South Africa has long been the global leader in platinum production, supplying the majority of the world's Platinum Group Metals (PGMs). These critical minerals—including platinum, palladium, rhodium, ruthenium, iridium, and gold—are essential to industries ranging from automotive manufacturing to clean energy technologies.

Among the country's most significant new mining developments is the **Waterberg Platinum Group Metals Project**, located on the Northern Limb of South Africa's Bushveld Igneous Complex. Recognized as one of the largest undeveloped platinum group metal deposits in the world, Waterberg is designed to become a modern, mechanized, large-scale underground mine that will enhance South Africa's position in the global supply of critical minerals.

Developed through a partnership led by **Platinum Group Metals Ltd.**, together with **Impal a Platinum Holdings Limited (Implats)**, **Mnombo Wethu Consultants**, the **Japan Organization for Metals and Energy Security (JOGMEC)**, and Hanwa Co. Ltd., the project represents a new generation of sustainable, highly efficient mining operations. Recent development activities have focused on advancing engineering studies, project financing, and environmental approvals ahead of a construction decision.

Project Overview

The Waterberg Project is situated approximately **85 kilometres north of Mokopane** in Limpopo Province, within the world-renowned Bushveld Complex, which hosts more than 70% of the world's known platinum reserves.

Unlike many older South African platinum mines that rely heavily on labour-intensive mining methods, Waterberg has been designed as a fully mechanized underground operation, allowing for improved safety, higher productivity, and lower operating costs.

Project Highlights

- **Country:** South Africa
- **Province:** Limpopo
- **Mining Method:** Mechanized Underground Mining
- **Primary Metals:** Platinum, Palladium, Rhodium and Gold (4E PGMs)
- **Development Stage:** Definitive Feasibility completed; project financing and permitting progressing





- **Estimated Mine Life:** More than 45 years

One of the World's Largest Undeveloped PGM Deposits

The Waterberg deposit is distinguished by its remarkable scale, shallow mineralization, and relatively thick ore zones, making it particularly suitable for mechanized mining.

According to the latest feasibility studies, the project hosts substantial proven and probable mineral reserves capable of supporting decades of production. Planned annual production is expected to exceed **350,000 ounces of 4E platinum group metals** during the initial development phases, with future expansion opportunities available as additional mining areas are brought into production.

The project's mineral inventory includes:

- Platinum
- Palladium
- Rhodium
- Gold
- Copper (by-product)
- Nickel (by-product)

These metals are increasingly important for catalytic converters, hydrogen fuel cells, electronics, chemical processing, and emerging clean-energy technologies.

Mechanized Mining for Greater Efficiency

One of Waterberg's defining features is its modern underground mining approach.

Instead of conventional narrow-reef mining, the project will utilize large-scale mechanized equipment capable of extracting ore safely and efficiently.

Key mining technologies include:

- Mechanized room-and-pillar mining
- Low-profile underground equipment
- Automated drilling systems
- High-capacity conveyor networks
- Digital mine management systems
- Advanced underground ventilation

This approach is expected to improve productivity while reducing occupational risks and lowering overall operating costs.

Modern Processing Infrastructure

The Waterberg Project includes plans for a state-of-the-art mineral processing facility capable of producing high-quality platinum group metal concentrate.

Processing will involve:

- Primary crushing
- Milling and grinding
- Flotation concentration
- Thickening and filtration
- Concentrate handling and transport





The project also incorporates energy-efficient technologies, water recycling systems, and advanced process controls to maximize metal recovery while minimizing environmental impacts.

Critical Minerals for the Hydrogen Economy

While platinum has traditionally been associated with automotive catalytic converters, its importance is expanding rapidly as countries invest in hydrogen technologies.

Platinum group metals produced at Waterberg are expected to support industries including:

- Hydrogen fuel cells
- Green hydrogen production
- Electric vehicle components
- Industrial catalysts
- Medical technologies
- Electronics manufacturing
- Chemical processing

The growing demand for low-carbon energy solutions positions Waterberg as a strategically important supplier of materials essential to the global energy transition.

Strong Economic Potential

The Waterberg Project is expected to become one of South Africa's largest new mining investments.

Key projected benefits include:

- Thousands of jobs during construction and operations
- Long-term employment for local communities
- Significant export revenues
- Increased tax and royalty payments
- Development of local supplier industries
- Skills development and technical training
- Infrastructure improvements across Limpopo Province

The project's long operational life provides the potential for sustained economic contributions over several decades.



Environmental and Social Responsibility

Environmental, Social and Governance (ESG) principles have been incorporated into the project's planning from its early stages.

Key sustainability initiatives include:

- Reduced surface disturbance through underground mining
- Water conservation and recycling
- Progressive rehabilitation programmes
- Modern waste management systems
- Energy-efficient mining technologies
- Community engagement and local procurement
- Occupational health and safety programmes

The project also aims to maximize local participation by supporting small businesses, workforce development, and community investment initiatives throughout its life cycle.

Financing and Development Progress

The Waterberg Project has reached several important milestones,



including:

- Completion of the Definitive Feasibility Study.
- Ongoing optimization of engineering designs.
- Environmental approvals and permitting activities.
- Advancement of project financing discussions with strategic investors and development finance institutions.
- Continued collaboration among project partners to support a Final Investment Decision.

The participation of established mining companies and international strategic investors provides technical expertise and financial strength to advance the project toward construction.

Supporting South Africa's Mining Future

Mining remains a cornerstone of South Africa's economy, and Waterberg demonstrates how the sector is evolving through innovation and mechanization.

The project supports national priorities by:

- Strengthening South Africa's leadership in platinum production.
- Promoting investment in critical minerals.
- Advancing mining technology and automation.
- Supporting industrial development.
- Enhancing export competitiveness.
- Creating long-term employment opportunities.
- Contributing to regional economic development.

As global industries seek secure and responsibly sourced supplies of platinum group metals, Waterberg is expected to play an increasingly important role in international supply chains.

Outlook

The Waterberg Platinum Group Metals Project represents one of the most significant undeveloped platinum mining opportunities anywhere in the world. Combining a large, high-quality mineral resource with modern mechanized mining methods, advanced processing technologies, and a strong commitment to environmental stewardship, the project is positioned to become a flagship operation for South Africa's next generation of mining.

As demand for platinum, palladium, and other critical minerals continues to grow—driven by clean energy technologies, hydrogen fuel cells, automotive applications, and industrial innovation—Waterberg is well placed to meet global market needs. Beyond its contribution to international mineral supply, the project promises lasting economic benefits through job creation, infrastructure development, skills transfer, and increased investment, reinforcing South Africa's position as the world's leading producer of platinum group metals and a key player in the global transition to a low-carbon economy.



KoBold Metals' Zambia Copper Exploration: Artificial Intelligence Unlocks Africa's Next Copper Frontier



Zambia is once again at the forefront of Africa's mining renaissance as **KoBold Metals**, a technology-driven mineral exploration company backed by leading global investors, accelerates its search for world-class copper deposits in the country's mineral-rich Copperbelt and North-Western Province. By combining advanced artificial intelligence (AI), machine learning, and cutting-edge geoscience, the company is redefining how critical minerals are discovered and developed.

Unlike traditional exploration methods that rely heavily on historical drilling and geological interpretation, KoBold Metals integrates vast datasets—including geological maps, geophysical surveys, satellite imagery, and geochemical information—into AI-powered models capable of identifying promising mineral targets with greater speed and accuracy. This data-driven approach significantly reduces exploration risks while improving the chances of discovering high-grade copper deposits.

Zambia remains one of the world's premier copper-producing nations, with the government targeting a substantial increase in annual copper production over the coming decade. KoBold Metals' exploration programme aligns closely with this vision by supporting new discoveries that could extend the country's mining legacy while attracting fresh foreign investment into the sector.

The company's exploration activities are also creating opportunities for local employment, technical training, and partnerships with Zambian suppliers and service providers. During the exploration phase, emphasis is placed on responsible environmental management, community engagement, and compliance with national mining regulations, reflecting the growing importance of Environmental, Social, and Governance (ESG) principles in modern mining.

As global demand for copper continues to rise—driven by electric vehicles, renewable energy systems, battery storage, and expanding power infrastructure—the need for new, sustainable copper resources has never been greater. KoBold Metals' innovative exploration strategy positions Zambia to play an increasingly important role in supplying one of the world's most essential energy-transition metals.

If exploration efforts lead to significant discoveries, the project could pave the way for future mine development, infrastructure investment, and long-term economic benefits for Zambia. More broadly, it demonstrates how artificial intelligence is transforming mineral exploration, opening new frontiers for the mining industry across Africa and helping secure the critical minerals needed for a low-carbon global economy.



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